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COATS & BENNETT, PLLC
P O BOX 5
RALEIGH, NC 27602

EXAMINER
SOL, ANTHONY M

ART UNIT	PAPER NUMBER
2662	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/036,057	Applicant(s) SIVALINGHAM, SANJEEVAN	
	Examiner Anthony Sol	Art Unit 2662	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 26, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 26, 27,

The term "approximately" in claims 26, 27 are relative term, which renders the claim indefinite. The term "approximately" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-12, 14-24, 28-36, 38-45, 48 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,501,733 B1 ("Falco").

Regarding claims 1, 9, 29,

Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42). Falco discloses that although the communications node 14 is shown coupled between the mobile switching center 10 and the base station 18, in an alternate embodiment the communications node 14 may be integrated with a mobile switching center or a base station system (Col. 2, lines 42-46). Falco further discloses that for reasons of battery conservation, mobiles typically "sleep" (dormant) during all but one time slot (Col. 5, lines 5-7; claim 1 - receiving incoming data from a public data network (PDN) for the dormant mobile terminal at the PCF; claim 9 – receiving incoming data for the dormant mobile terminal from the PDSN at the PCF; claim 29 – receiving incoming data for the dormant mobile terminal).

Falco further discloses that the initial communication with a mobile to set up a voice or data transmission must occur in this "listening" time slot (Col. 5, lines 10-11; claim 1 – initiating connection establishment between the dormant mobile terminal and the PCF responsive to the incoming data; claim 9 – initiating connection reestablishment with the dormant mobile responsive to receiving the data; claim 29 – initiates connection re-establishment between the PCF and a dormant mobile terminal associated with the PCF in response to the PCF).

Falco shows in Fig. 2A, step S10, the communications node 14 defines or observes a waiting-time limit for each data message. Falco further discloses that the waiting-time limit refers to a maximum permitted latent duration (Col. 5, lines 22-25; claim 1 – starting a timer responsive to receiving the incoming data; claim 9 – starting a timer responsive to receiving the data; claim 29 – at least one processor starts a timer).

Falco discloses the buffer memory manager 32 makes preemptive deletions of data messages where existing data messages in the buffer memory 36 are deleted before a queue fills (Col. 3, lines 22-25; claim 1 – buffering the received incoming data; claim 9 – buffering the incoming data up to a defined buffer limit; claim 29 – memory, wherein the PCF buffers the received incoming data in the memory).

Falco discloses that if the buffer memory 36 of Fig. 1 is full, the gatekeeper 30 may refuse to admit a receive data message to the buffer memory 36 for processing (Col. 3, lines 2-4; claim 9 – discarding any incoming data received after reaching the defined buffer limit).

Falco discloses the waiting-time limit refers to a maximum permitted latent duration, after which a stored data message is not ordinarily transmitted from the buffer memory 36, but deleted, overwritten, or displaced (Col. 5, lines 24-27; claim 1 – discarding the buffered incoming data if the connection between the dormant mobile terminal and the PCF is not established before expiration of the timer; claim 29 – the PCF discards the buffered incoming data from the memory if the connection cannot be re-established before the timer has expired).

Falco also discloses that the waiting time limit may be defined so that all of the data messages have a homogenous waiting-time limit. It is inherent then that if the connection with the mobile terminal is not established within the waiting-time limit that the buffered memory is discarded and the timer reset (Col. 5, lines 44-46; claim 9 – discarding the buffered data and resetting the timer if the connection with the mobile terminal is not reestablished before expiration of the timer).

Falco discloses a true zero-loss approach that signifies that all receive data messages that can meet their time-out constraints are admitted to a communication node to be subsequently outputted to the mobile terminal (Col. 5, lines 19-21; claim 1 – transferring the buffered incoming data from the PCF to the previously dormant mobile terminal if the connection is established before expiration of the timer; claim 9 - transferring buffered data from the PCF to the previously dormant mobile terminal if a connection with the mobile terminal is reestablished before expiration of the timer; claim 29 – transfers the buffered incoming data to the mobile terminal if the connection is re-established before the timer has expired).

5. Regarding claims 2, 30,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses the queues may have static maximum sizes (Col. 3, lines 29-30; claim 2 – buffering the received incoming data comprises buffering incoming data for

the dormant mobile terminal up to a defined buffer limit; claim 30 – PCF buffers the incoming data in the memory up to a defined buffer limit).

6. Regarding claims 3, 4, 31, 38, 44,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses the queues may have static maximum sizes (Col. 3, lines 29-30) Falco further discloses a true zero-loss approach, which signifies that all receive data messages that can meet their time-out constraints are admitted to a communications node. The waiting-time limit refers to a maximum permitted latent duration, within which a stored data message is transmitted from the buffer memory (Col. 5, lines 19-21, lines 24-26; claim 3 – continuing to buffer incoming data for the dormant mobile terminal received after starting the timer up to the defined buffer limit; claim 4 – buffering at least a portion of incoming data for the mobile terminal received after starting the timer, such that incoming data for the dormant mobile terminal received before expiration of the timer is buffered up to the defined buffer limit; claim 31 – PCF continues buffering at least a portion of incoming data received after starting the timer up to the defined buffer limit; claim 38 – incoming data comprises packet data, and wherein the PCF buffers incoming packets up to a defined buffer limit, and transfers buffered packet data to the previously dormant mobile terminal in the order that the packet data was received at the PCF; claim 44 – at least one processor buffers the incoming data in said memory up to

a defined buffer limit by discarding any incoming data received before expiration of the timer and in excess of said defined buffer limit).

7. Regarding claims 5, 35,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses that queues with dynamic maximum sizes are preferable to enhance the flexibility of the memory management (Col. 3, lines 3-33; claim 5 – implementing the defined buffer limit as a configurable buffer limit; claim 35 – PCF uses a configurable buffer limit as the defined buffer limit).

8. Regarding claims 6, 32, 34,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses that if the buffer memory 36 of Fig. 1 is full, the gatekeeper 30 may refuse to admit a receive data message to the buffer memory 36 for processing (Col. 3, lines 2-4; claim 6 – discarding incoming data on a last-in basis to avoid exceeding the defined buffer limit; claim 32 – PCF discards incoming data received in excess of the defined buffer limit; claim 34 – PCF discards incoming data on a last-in basis to avoid exceeding the defined buffer limit).

9. Regarding claims 7, 33,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses that the memory manager 32 of Fig. 1 may delete an existing message in the buffer memory 36 to make room for a more recent receive data message (Col. 3, lines 10-12; claim 7 – discarding data on a first-in basis to avoid exceeding the defined buffer limit; claim 33 – PCF discards incoming data on a first-in basis to avoid exceeding the defined buffer limit).

10. Regarding claim 8,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42; claim 8 – managing incoming data for a plurality of dormant mobile terminals).

11. Regarding claim 10,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 2A, a zero-loss method where a data message has a transmission-departure time that is predicted to meet its waiting-time limit (i.e. time-out

constraint) (Col. 9, lines 1-4; claim 10 – configuring an expiration period of the timer to match an expected reactivation delay of the mobile terminal).

12. Regarding claims 11, 43,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses that to accurately predict the transmission departure time, the overload controller 33 of Fig. 1 may assess the transmission time of currently queued or stored data packets, time slots, or frames from the output port 16 based on previously transmitted data packets, time slots, or frames, respectively (Col. 5, lines 41-45; claim 11 – determining said expected reactivation delay based on an average expected time associated with said connection reestablishment; claim 43 – timer has an expiration period matched to an expected maximum time for reestablishing connection with the mobile terminal).

13. Regarding claim 12,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses that the buffer memory manager 32 may establish preemptive deletions to preserve space for "important" messages. Falco further discloses that the preservation of such space can be configured to meet anticipated demand during peak

busy periods (Col. 3, lines 25-29; claim 12 – setting the defined buffer limit to a value that accommodates an expected maximum data packet size).

14. Regarding claim 14,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 2B that after departure time limit is exceeded S16 and arriving message discarded S30, the process repeats itself at step S10 as in claim 1 (Claim 14 – repeating the steps of claim 1 after expiration of the timer if the mobile remains dormant and subsequent data is received for the mobile terminal).

15. Regarding claim 15,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses the buffer memory manager 32 makes preemptive deletions of data messages where existing data messages in the buffer memory 36 are deleted before a queue fills (Col. 3, lines 22-25). Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42; claim 15 – buffering incoming data for a plurality of dormant mobile terminals).

16. Regarding claim 16,

Falco discloses a method that covers all the limitations of the

parent claim.

Falco discloses that the initial communication with a mobile to set up a voice or data transmission must occur in this "listening" time slot (Col. 5, lines 10-11). Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42; claim 16 – timing connection reestablishment for individual ones of said plurality of mobile terminals).

17. Regarding claims 17, 45

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses that the initial communication with a mobile to set up a voice or data transmission must occur in this "listening" time slot (Col. 5, lines 10-11). Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to a base station system 18 for a downlink transmission to one or more mobile stations 20 (Col. 2, lines 27-30, 39-42; claim 17 – generating a service request message for a base station controller (BSC) associated with said mobile terminal; claim 45 – at least one processor initiates connection reestablishment with the dormant mobile terminal responsive to the incoming data by sending a service request message to a base station controller (BSC) associated with the dormant mobile terminal).

18. Regarding claims 18, 48,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 1 the buffered data is transferred to a base station system 18 associated with the mobile station (Claim 18 – transferring the buffered data to a base station controller (BSC) associated with said mobile terminal; claim 48 – processor transfers buffered data from the PCF to the previously dormant mobile terminal by transferring the buffered data to a base station controller associated with the previously dormant mobile terminal).

19. Regarding claims 19, 39,

Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42). Falco discloses that although the communications node 14 is shown coupled between the mobile switching center 10 and the base station 18, in an alternate embodiment the communications node may be integrated with a mobile switching center or a base station system (Col. 2, lines 42-46). Falco further discloses that for reasons of battery conservation, mobiles typically "sleep" (dormant) during all but one time slot (Col. 5, lines 5-7; claim 19 – receiving data for a dormant mobile terminal from a packet data serving node (PSDN) at a packet control function (PCF)).

Falco shows in Fig. 2A, step S10, the communications node 14 defines or observes a waiting-time limit for each data message. Falco further discloses that the waiting-time limit refers to a maximum permitted latent duration (Col. 5, lines 22-25; claim 19 – starting a timer at said PCF responsive to receiving data; claim 39 – start a timer responsive to receiving incoming data for a dormant mobile terminal associated with said PCF).

Falco discloses the buffer memory manager 32 makes preemptive deletions of data messages where existing data messages in the buffer memory 36 are deleted before a queue fills (Col. 3, lines 22-25; claim 19 – buffering incoming data received at the PCF for the dormant mobile terminal; claim 39 – buffer the incoming data in said memory up to a defined buffer limit).

Falco discloses that the initial communication with a mobile to set up a voice or data transmission must occur in this "listening" time slot (Col. 5, lines 10-11). Falco shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to a base station system 18 for a downlink transmission to one or more mobile stations 20 (Col. 2, lines 27-30, 39-42; claim 19 – initiating re-establishment of an active connection with the dormant mobile terminal by sending a service request from said PCF to a base station controller (BSC) associated with said dormant mobile terminal; claim 39 – initiate connection reestablishment with the dormant mobile terminal responsive to the incoming data).

Falco discloses that although the communications node 14 is shown coupled between the mobile switching center 10 and the base station 18, in an alternate embodiment the communications node 14 may be integrated with a mobile switching center or a base station system (Col. 2, lines 42-46). In that case, since the base station system resides within the MSC, the service request could be sent from the base station system to the MSC (Claim 19 – sending a service request from said BSC to a mobile switching center (MSC) responsive to receiving the service request from said PCF). Similarly, since the BSC is integrated within MSC, the mobile station of Fig. 1 can receive a paging message from MSC 10 via base station system 18 after receiving the service request from the base station system (Claim 19 – paging the dormant mobile terminal from said MSC via said BSC responsive to receiving the service request from said BSC).

Falco discloses that the initial communication with a mobile to set up a voice or data transmission must occur in this "listening" time slot (Col. 5, lines 10-11). Falco further discloses that when a mobile receives one of these messages, it remains awake and listens to all time slots within the superframe interval. It is inherent that the "listening" of all time slots is for the purpose of setting up a traffic channel (Col. 5, lines 11-14; claim 19 – setting up a traffic channel between said BSC and said mobile terminal if the previously dormant mobile terminal responds to said paging request).

Falco discloses a true zero-loss approach that signifies that all receive data messages that can meet their time-out constraints are admitted to a communication node to be subsequently outputted to the mobile terminal (Col. 5, lines 19-21; claim 19 -

transferring the buffered data from said PCF to said mobile terminal via said BSC if said traffic channel is established before expiration of the timer; claim 39 – transfer buffered data from the PCF to the previously dormant mobile terminal if a connection with the mobile terminal is reestablished before expiration of the timer).

Falco also discloses that the waiting time limit may be defined so that all of the data messages have a homogenous waiting-time limit. It is inherent then that if the connection with the mobile terminal is not established within the waiting-time limit that the buffered memory is discarded (Col. 5, lines 44-46; claim 19 – discarding the buffered data at said PCF if said traffic channel is not established before expiration of the timer; claim 39 – discard the buffered data and reset the timer if the connection with the mobile terminal is not reestablished before expiration of the timer).

Falco shows in Fig. 2B whether an arriving message is admitted S18 to be transmitted to the mobile terminal or discarded S30, the process repeats itself with step S10 where the timer is reset (Claim 19 – resetting the timer upon transferring the buffered data or upon expiration of the timer).

20. Regarding claim 20,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses that if the buffer memory 36 of Fig. 1 is full, the gatekeeper 30 may refuse to admit a receive data message to the buffer memory 36 for processing (Col. 3, lines 2-4; claim 20 – discarding at least a portion of the incoming data for the

dormant mobile terminal before expiration of the timer if an amount of incoming data received exceeds a defined buffer limit).

21. Regarding claim 21,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses that the buffer memory manager 32 may establish preemptive deletions to preserve space for "important" messages. Falco further discloses that the preservation of such space can be configured to meet anticipated demand during peak busy periods (Col. 3, lines 25-29; claim 21 – setting the defined buffer limit to a value that matching an expected maximum data packet size).

22. Regarding claim 22,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 2B that after departure time limit is exceeded S16 and arriving message discarded S30, the process repeats itself at step S10 (Claim 22 – paging the mobile terminal again if subsequent data is received for the dormant mobile terminal and the timer has been reset).

23. Regarding claim 23,

Falco discloses a method that covers all the limitations of the parent claim.

Falco shows in Fig. 2B that after departure time limit is exceeded S16 and arriving message discarded S30, the process repeats itself at step S10 as in claim 1 Falco further shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42; claim 23 – performing the steps of claim 1 for a plurality of mobile terminals, wherein said PCF buffers data received for each one of said plurality of dormant mobile terminals).

24. Regarding claim 24,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses communication node 14 (PCF) of Fig. 1 communicates to a TDMA wireless system (Col. 4, lines 13-14; claim 24 – basing signaling between said PCF, BSC, and MSC, on signaling standards defined for the wireless communication network).

25. Regarding claims 28, 36, 40, 41, 42,

Falco discloses a method and system that covers all the limitations of the parent claim.

Falco discloses the buffer memory manager 32 makes preemptive deletions of data messages where existing data messages in the buffer memory 36 are deleted before a queue fills (Col. 3, lines 22-25). Falco shows in Fig. 2A, step S10, the

communications node 14 defines or observes a waiting-time limit for each data message. Falco further discloses that the waiting-time limit refers to a maximum permitted latent duration (Col. 5, lines 22-25). Falco further shows in Fig. 1 a store-and-forward communications node 14 (PCF) that receives data messages from a network element (PDN) at an input 12 to be outputted to one or more mobile stations (Col. 2, lines 27-30, 39-42; claim 28 – maintaining a buffer and a timer for each dormant mobile terminal for which data is received at said PCF; claim 36 – PCF maintains a timer and a corresponding buffer for each of a plurality of dormant mobile terminals; claim 40 – at least one processor buffers incoming data for a plurality of dormant mobile terminals; claim 41 – at least one processor maintains a separate buffer in said memory for buffering incoming data for each of said plurality of dormant mobile terminals that receives incoming data while dormant; claim 42 – at least one processor maintains a separate timer for timing connection reestablishment of each of said plurality of dormant mobile terminals that receives incoming data).

Claim 1Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

27. Claims 13, 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Falco in view of Pub. No. US 2002/0080774 A1 ("Griffith").

Regarding claim 13,

Falco discloses a method that covers all the limitations of the parent claim.

Falco does not disclose setting the defined buffer limit according to a TCP window size.

Griffith discloses that TCP transmits data across a network by packaging the data into segments of various predetermined sizes. Falco further discloses that if a TCP segments takes too long to reach its intended destination, a TCP "time-out" condition can occur, resulting in a TCP window-size reduction, which can slow overall data throughput rate. Falco still further discloses that by buffering a TCP segment received and determining the optimum segment size for data traversing a particular wireless link, the received TCP segment can be reformatted into a number of smaller or otherwise more appropriate sized segments (Pg.1, paragraph 19, lines 3-6; Pg. 2, paragraph 21, lines 1-7; paragraph 22, lines 1-8; claim 13 - setting the defined buffer limit according to a TCP window size).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the defined buffer limit as taught by Falco according to a TCP window size as taught by Griffith so that appropriately sized buffers can handle the optimum segment size designed to optimize data throughput across the wireless network (Pg. 1, paragraph 22, lines 1-8). One skilled in the art would have

been motivated to combine Falco with Griffith (collectively "Falco-Griffith") to generate the claimed invention with a reasonable expectation of success.

28. Regarding claim 37,

Falco-Griffith discloses a method and system that covers all the limitations of the parent claim.

Falco-Griffith discloses that in case of a TCP "time-out" condition, the data contained in the failed segment must be retransmitted (Griffith, pg. 2, paragraph 21, lines 1-4; claim 37 - PCF communicates with an originating network entity if buffered incoming data is discarded, such that the originating network entity re-transmits at least a portion of the discarded data).

29. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Falco in view of U.S. Patent No. 6,904,288 B2 ("Rosen"), and further in view of U.S. Patent No. 6,904,028 B1 ("Semper").

Falco discloses a method that covers all the limitations of the parent claim.

Falco does not expressly disclose that the wireless communication network is based on the TIA/EIA/IS-2000 standard, and further comprising said signaling based on the IOS v4.0 signaling standards.

Rosen discloses a communications network where a significant reduction in the actual total dormancy wakeup time may be achieved through the use of the short data

burst (SDB) messages, as provided in TIA/EIA/IS-2000 Standards for cdma2000 Spread Spectrum Systems (Col. 9, lines 7-11; claim 25 – wireless communication network is based on the TIA/EIA/IS-2000 standard).

Semper discloses a CDMA communications system where a most recent adopted standard CDMA 2000 (IOS V4.0), provides for 5 millisecond messages to carry essential signaling information to allow for rapid interaction between the mobile and the base station (Col.1, lines 45-49; claim 25 – signaling based on the IOS v4.0 signaling standards).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the wireless communication network of Falco to be based on the TIA/EIA/IS-2000 standard as taught by Rosen and the IOS v4.0 standard as taught by Semper so that communications node 14 of Falco can communicate to a downstream code-division, multiple-access systems (CDMA) (Falco, Col. 4, lines 13-17). One skilled in the art would have been motivated to combine Falco with Rosen and Semper (collectively "Falco-Rosen-Semper") to generate the claimed invention with a reasonable expectation of success.

30. Claims 26, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falco.

Regarding claim 26,

Falco discloses a method that covers all the limitations of the parent claim.

Falco also discloses that the waiting time limit may be defined so that all of the data messages have a homogenous waiting-time limit. Claim 26 further limits the waiting-time limit (expiration period) to be approximately thirty seconds. However, if no unexpected results occur by adjusting the waiting-time limit to 30 seconds, then adjusting such variable would be considered within the level of one skilled in the art (Col. 5, lines 44-46; claim 26 – setting the expiration period of the timer to be approximately thirty seconds).

31. Regarding claim 27,

Falco discloses a method that covers all the limitations of the parent claim.

Falco discloses the buffer memory manager 32 makes preemptive deletions of data messages where existing data messages in the buffer memory 36 are deleted before a queue fills. Claim 27 further limits the buffer limit to be approximately sixty-four kilobytes. However, if no unexpected results occur by adjusting the buffer limit to sixty-four kilobytes, then adjusting such variable would be considered within the level of one skilled in the art (Col. 3, lines 22-25; claim 27 – setting the defined buffer limit to be approximately sixty-four kilobytes).

32. Claims 46, 47, 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Falco in view of Rosen, and further in view of Pub. No. US 2002/0176382 A1 ("Madour").

Regarding claim 46,

Falco discloses a system that covers all the limitations of the parent claim.

Falco does not expressly disclose that the wireless communication network is based on the TIA/EIA/IS-2000 standard, and the processor sends said service request to the BSC by generating an A9 base station service request.

Rosen discloses a communications network where a significant reduction in the actual total dormancy wakeup time may be achieved through the use of the short data burst (SDB) messages, as provided in TIA/EIA/IS-2000 Standards for cdma2000 Spread Spectrum Systems (Col. 9, lines 7-11; claim 46 – wireless communication network is based on the TIA/EIA/IS-2000 standard).

Madour discloses a CDMA communications system where the PCF 134 of Fig. 1 sends an A9 connect message 512 of Fig. 5 to the BSC 122 illustrating a hard handoff of a mobile station roaming from a second-generation network to a third-generation network (Pg. 5, paragraph 50, lines 4-5; claim 46 – processor sends said service request to the BSC by generating an A9 base station service request).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the wireless communication network of Falco to be based on the TIA/EIA/IS-2000 standard as taught by Rosen and the A9 base station service request as taught by Madour so that communications node 14 of Falco can communicate to a downstream code-division, multiple-access systems (CDMA) (Falco, Col. 4, lines 13-17). One skilled in the art would have been motivated to

combine Falco with Rosen and Madour (collectively "Falco-Rosen-Madour") to generate the claimed invention with a reasonable expectation of success.

33. Regarding claims 47, 49,

Falco discloses a system that covers all the limitations of the parent claim.

Falco does not expressly disclose that the processor receives the incoming data through an A10 connection established between said PCF and a packet data serving node (PDSN).

Madour discloses that an A10/A11 establishment procedures 534 of Fig. 5 occur between the PCF 134 of Fig. 1 and the PDSN 120 (Pg. 5, paragraph 53, lines 3-5; claim 47 – processor receives the incoming data through an A10 connection established between said PCF and a packet data serving node (PDSN); claim 49 – processor receives a setup request message from a base station controller associated with said PCF as indication that the connection was reestablished with the previously dormant mobile terminal).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the wireless communication network of Falco to receive the A9 base station service request as taught by Madour so that communications node 14 of Falco can communicate to a downstream code-division, multiple-access systems (CDMA) (Falco, Col. 4, lines 13-17). One skilled in the art would have been motivated to combine Falco with Madour (collectively

"Falco-Madour") to generate the claimed invention with a reasonable expectation of success.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Chau T. Nguyen

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600